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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,273	06/25/2003	Peter Brandt	31021037 US-01	4469

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EXAMINER

DWIVEDI, MAHESH H

ART UNIT PAPER NUMBER

2168

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/603,273	Applicant(s) BRANDT, PETER	
	Examiner Mahesh H. Dwivedi	Art Unit 2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 2,6,12-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-11,14-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner's Notes

1. The preliminary amendments submitted on 07/25/2003 were incoherent and inadequately written. It is unclear as to which amendment the applicant intended to be considered. For the purposes of this examination, the examiner is considering the preliminary amendment entitled "Version with Markings to show changes made". It appears as if claims 2, 6, 12, and 13 are cancelled. For the purposes of this examination, the examiner considers claims 2, 6, 12, and 13 to be cancelled.

Response to Amendment

2. The preliminary amendment submitted on 07/25/2003 has been received, entered into the record, and considered. The modified parts include changing the titles in the abstract and specification, deleting content in the abstract, deleting content in the specification, amending claims 1, 3-5, 7-11, canceling claims 2, 6, 12, and 13, and adding claims 14-15.

Specification

3. The abstract of the disclosure is objected to because the abstract is in improper form. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is

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important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 8-11, and 14-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.
6. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner notes that it is unclear if the applicant is claiming the means for applying a method for column interleaving, or the steps of column interleaving.

Claims 10-11 are rejected for incorporating the deficiencies of claim 8.

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Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner notes that it is unclear if the applicant is claiming the means for applying a method for column interleaving, or the steps of column interleaving.

Claims 14-15 are rejected for incorporating the deficiencies of claim 8.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 1, 3-5, 7-10, and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by **Boner** (“Boner” (U.S. Patent 6,625,763)).

9. Regarding claims 1, 8, and 9, **Boner** teaches a method, a module, and an integrated circuit for column interleaving comprising:

A) Providing a number of memories equal to the maximum number of columns in the interleaver function (Column 1, lines 54-60, Column 4, lines 54-57, Figures 3-11),

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- B) Inputting a stream of data entities (Column 4, lines 54-57),
- C) Writing said data entities successively into a memory, until all memories are completely filled or until all data entities are written (Column 4, lines 54-65, Figure 2),
- D) Performing selection and permutation on said memories (Column 8, lines 23-33), and
- E) Reading out said data entities in said permuted memories, in a memory-by-memory fashion (Column 8, lines 23-33, Figures 3-11).

The examiner notes that Boner's teaching of the number of columns is equal to the length of each incoming data bit word is analogous to **"providing a number of memories equal to the maximum number of columns"**.

Regarding claim 3, **Boner** further teaches a method comprising:

- A) wherein said data entities are logical ones and zeros (Column 5, lines 17-19, Figure 2).

The examiner notes that it is common knowledge that "data bits" (Column 5, lines 18) are in binary form.

Regarding claim 4, **Boner** further teaches a method comprising:

- A) wherein said data entities are multiple bit words (Column 2, lines 43-45, Column 3, lines 40-45, Figures 3-11).

Regarding claim 5, **Boner** further teaches a method comprising:

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A) wherein said data entities are three bit words (Column 2, lines 43-45).

Regarding claim 7, **Boner** further teaches a method comprising:

A) wherein the number of columns used in the column interleaver function is changed on the fly, said number of columns not exceeding said maximum number of columns (Column 1, lines 54-60, Column 4, lines 14-19, lines 54-57).

The examiner notes that the interleaving function taught by Boner can be used for different bit sizes with accompanying columns.

Regarding claim 10, **Boner** teaches a module comprising:

A) A communication system device, comprising a module as in claim 8 (Column 1, lines 14-20).

Regarding claim 14, **Boner** teaches a communication device comprising:

A) an integrated circuit device as in claim 9 (Column 1, lines 14-20).

The examiner notes that it is common knowledge that a "source device" (Column 1, lines 16-17) contains an "**integrated circuit**".

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been

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obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Boner** (U.S. Patent 6,625,763) and in view of **Hustig et al.** (U.S. Patent 4,672,605).

12. Regarding claims 11 and 15, Boner does not explicitly teach:

A) A spread-spectrum communication apparatus

Hustig, however teaches "spread-spectrum communication apparatus" as "spread spectrum techniques" (Column 3, lines 38-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Hustig's** would have allowed **Boner's** to provide error free communication, as noted by **Hustig** (Column 1, lines 55-57).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,954,885 issued to **Hurt et al.** on 11 October 2005. The subject matter disclosed therein is pertinent to that of claims 1-15 (e.g., methods interleave data)

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U.S. Patent 6,061,820 issued to **Nakakita et al.** on 09 May 2000. The subject matter disclosed therein is pertinent to that of claims 1-15 (e.g., methods interleave data).

U.S. Patent 6,631,491 issued to **Shibutani et al.** on 07 October 2003. The subject matter disclosed therein is pertinent to that of claims 1-15 (e.g., methods interleave data).

U.S. Patent 4,291,406 issued to **Bahl et al.** on 22 September 1981. The subject matter disclosed therein is pertinent to that of claims 1-15 (e.g., methods interleave data).

U.S. Patent 4,394,642 issued to **Currie et al.** on 19 July 2003. The subject matter disclosed therein is pertinent to that of claims 1-15 (e.g., methods interleave data).

Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahesh Dwivedi whose telephone number is (571) 272-2731. The examiner can normally be reached on Monday to Friday 8:20 am – 4:40 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached (571) 272-4146. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

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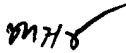
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Mahesh Dwivedi

Patent Examiner

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January 09, 2006